Trinity Delta

Scancell

Update

A sweet source of financing

4 September 2019

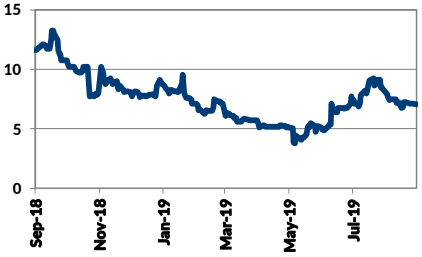
Scancell has formed a non-exclusive collaboration with a leading antibody technology company, with a view to out-licensing its glycan antibodies and AvidiMab technology. Antibodies against glycans (carbohydrates on proteins or lipids) are difficult to make but have much potential in oncology as many are highly specific to tumour cells. AvidiMab enables an antibody to kill cancer cells directly, without mediation by other elements of the immune system. The potential of the glycan antibodies and AvidiMab platform, although they are still preclinical, is such that we believe Scancell could receive significant upfront and milestone payments, providing material non-dilutive funding for the core ImmunoBody and Moditope platforms.

Year-end: April 30	2018	2019	2020E	2021E
Sales (£m)	0.0	0.0	0.0	0.0
Adj. PBT (£m)	(4.9)	(6.7)	(7.7)	(8.8)
Net Income (£m)	(4.2)	(5.6)	(6.4)	(7.2)
Adj. EPS (p)	(1.3)	(1.5)	(1.4)	(1.6)
Cash (£m)	10.3	4.6	3.4	6.2*
EBITDA (£m)	(4.9)	(6.7)	(7.7)	(8.8)

Source: Trinity Delta; Adjusted numbers exclude exceptionals; * Cash in FY21 includes a capital increase of £10m

- **Partnering process for glycan-antibody technology has begun** Scancell acquired a panel of monoclonal antibodies that bind to glycans and the related IP from Nottingham University in April 2018, and has now started the partnering process for the antibodies and technology, having developed the data packages. Tumour-associated glycans (TaGs) are an attractive, but virtually untapped, pool of oncology targets as they are often highly tumour-specific. Scancell's AvidiMab technology enables antibodies to kill tumours directly, without the intervention of the immune system, which could be particularly valuable in patients with "cold" tumours.
- **Potential for material non-dilutive funding** Licensing deals for the glycan antibodies and AvidiMab technology could provide Scancell with meaningful, non-dilutive funding for its key technology platforms, ImmunoBody and Moditope. For reference, Scancell out-licensed some related antibodies to the Australian biotech, Peptech, in 2006 receiving an upfront payment of £2.0m and a £2.85m milestone. While a royalty will be payable to Nottingham University, any deal should deliver an impressive return on investment and improve Scancell's cash position.
- **Important clinical data from ImmunoBody and Moditope in H220** Initial clinical data from the recently-started Phase II melanoma study with ImmunoBody SCIB1 in combination with pembrolizumab, and the Phase I/II trial in various solid tumours with Moditope Modi-1 are due in H220. Promising results from either trial could transform the prospects of the company.
- **Valuation maintained at 17.6p/share** We value Scancell at £82.0m (17.6p/share) based on a rNPV and sum-of-the-parts methodology, with conservative assumptions. Licensing deal(s) would improve Scancell's cash position. It had cash of £4.6m on 30 April 2018, and subsequently received c £4.8m in total from a R&D tax credit receipt and the private placement to Vulpes Life Sciences Fund.

Price	7.05p
Market Cap	£32.8m
Enterprise Value	£26.5m
Shares in issue	465.4m
12 month range	3.0-13.9p
Free float	79%
Primary exchange	AIM London
Other exchanges	N/A
Sector	Healthcare
Company Code	SCLP.L
Corporate client	Yes



Company description

Scancell is a clinical-stage immuno-oncology specialist that is developing two innovative and flexible therapeutic vaccine platforms. ImmunoBody and Moditope induce high avidity cytotoxic CD8 and CD4 responses, respectively, with the potential to treat various cancers.

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Scancell: A non-dilutive funding opportunity

Scancell aims to partner antibody technologies to provide non-dilutive funding for ImmunoBody and Moditope…

Scancell acquired a panel of antibodies that target glycans and the IP connected to the AvidiMab technology in April 2018 from Nottingham University. The company has since strengthened the data package around both the antibodies and the AvidiMab platform, with greater preclinical validation of their potential and additional IP. The aim is now to out-license the antibodies and the AvidiMab technology, with the proceeds from any deal used to support the further development of the ImmunoBody and Moditope platforms. This process has already begun with the formation of a non-exclusive research collaboration with a leading antibody technology company, during which the antibodies and AvidiMab technology will be assessed.

… and, the process has begun with a collaboration with a leading antibody company

The glycan technology and opportunity

Glycans offer attractive oncology targets…

Glycans are carbohydrates that are attached to proteins or lipids, which modify their behaviour. Glycosylation is the process of attaching a glycan to a protein or lipid. In the case of proteins, it is a form of post-translational modification, like phosphorylation, and is critical to the final function of a protein. Glycans are known to be involved in cell-cell interactions, protein folding and trafficking, and cell signalling. There are also significant changes in glycosylation patterns of proteins and lipids in tumour cells.

In many ways, glycans can make ideal antibody targets for cancer treatment. Some glycans are highly specific for tumour cells, where they may be expressed at high levels. The potential of glycan antibodies in oncology has been validated by dinutuximab (United Therapeutics' Unituxin), which binds to the glycan GD2 and is used to treat children with high-risk neuroblastoma.

… but therapeutic-quality glycan antibodies are difficult to produce

However, it is challenging to produce antibodies with therapeutic potential that bind to glycans. The carbohydrate structures are not highly immunogenic, unlike most proteins, and tend to result in the formation of IgM antibodies with low binding affinities that are not suitable for therapeutic use. It is also more difficult to identify those glycan antibodies that bind specifically to a glycan of interest, than it is with an antibody that binds to a protein epitope. The net result is that there is a largely untapped pool of glycans that could make good antibody targets in the field of oncology.

Scancell has in-licensed glycan antibodies with therapeutic potential

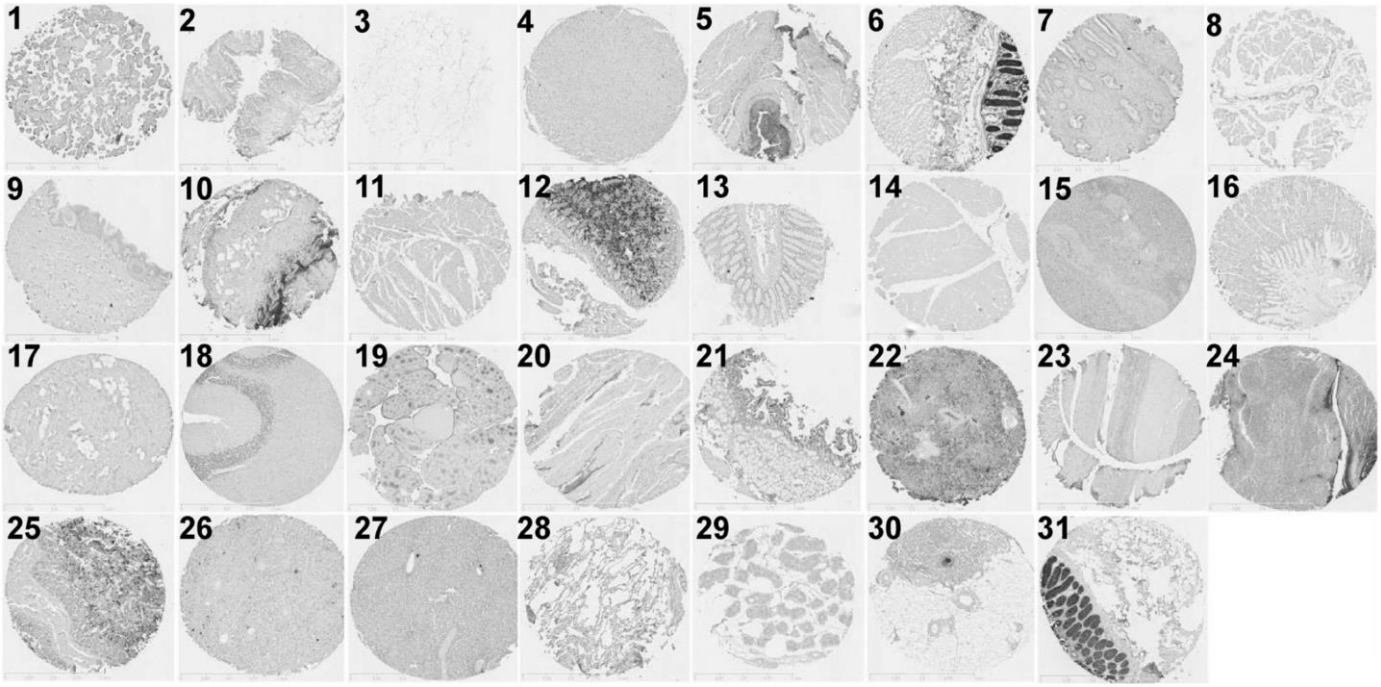
Scancell has in-licensed a panel of preclinical antibodies that bind specifically to tumour-associated glycans (TaGs). The company has also discovered that these antibodies have many features that make them attractive as potential therapeutic agents, including:

- Sub-nanomolar binding affinities;
- High specificity for target TaG;
- Target TaGs have very limited expression in normal tissues;
- High rates of internalisation for drug delivery;
- Ability to kill tumour cells efficiently (directly or via the immune system).

Tumour-associated glycans can have very limited expression in normal tissues…

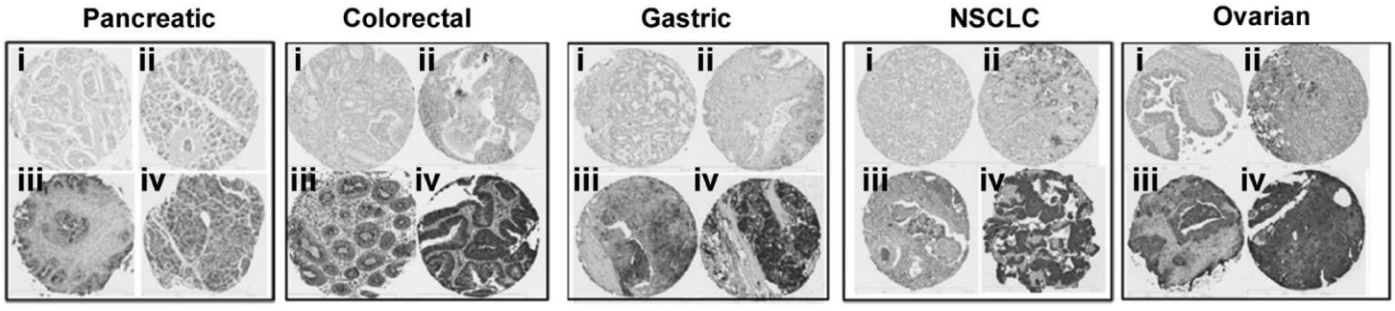
By selecting TaG targets that are not in generally expressed in normal tissues and then producing highly specific antibodies, Scancell has developed antibodies that essentially only bind strongly to tumour cells. As an example, Exhibit 1 shows the limited binding on normal tissues of the antibody FG88.2, which recognises the glycan Lewis[acx] on glycoproteins and glycolipids, and Exhibit 2 indicates the high levels of binding that can occur on tumour cells.

Exhibit 1: Lack of binding of glycan antibody FG88.2 to a broad range of normal tissues



Source: Chua J. X. et al, Clinical Cancer Research, March 2015; Notes: 1 placenta; 2 bladder; 3 adipose; 4 brain; 5 oesophagus; 6 colon; 7 cervix; 8 diaphragm; 9 skin; 10 gall bladder; 11 heart; 12 ileum; 13 rectum; 14 skeletal muscle; 15 spleen; 16 stomach; 17 breast; 18 cerebellum; 19 thyroid; 20 uterus; 21 duodenum; 22 pancreas; 23 ovary; 24 tonsil; 25 jejunum; 26 kidney; 27 liver; 28 lung; 29 testis; 30 thymus; and 31 small intestine.

Exhibit 2: The binding of glycan antibody FG88.2 to different tumours with (i) no, (ii) weak, (iii) moderate or (iv) strong expression of tumour-associated glycan Lewis[acx]



Source: Chua J. X. et al, Clinical Cancer Research, March 2015

As with all tumour-associated antigens, the expression of a TaG is to a degree dependent on the tumour type and will vary between patients. For example, FG129 binds to 74% of pancreatic tumours, 50% of gastric cancers and 36% of colorectal cancers.

… making them ideal oncology targets, especially for potent new therapies such as CAR-T

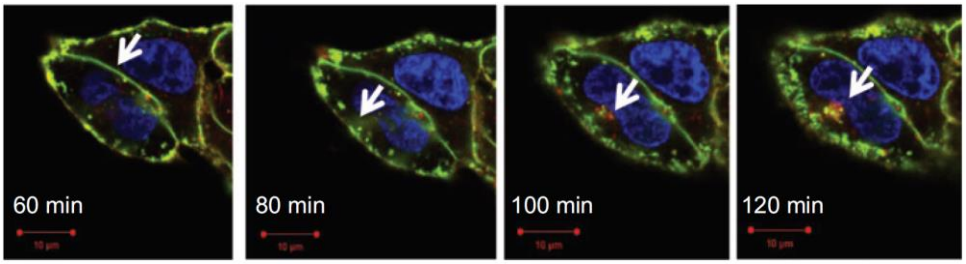
The highly targeted binding of Scancell's TaG antibodies to tumour tissue means that these antibodies could be used as the starting point for the development of potent therapies, such as bispecific antibodies with a T-cell engager or CAR-T

therapies, for solid tumours. A major issue with developing such novel therapies in these indications is on-target/off-tumour effects.

Well suited for antibody-drug conjugates as well

TaG antibodies are also well suited for potential development into antibody-drug conjugates (ADCs); they tend to be internalised more than those that bind to proteins (Exhibit 3). This in turn should result in more efficacious ADCs.

Exhibit 3: Images showing the internalisation of FG88 over time



Source: Chua J. X. et al, Clinical Cancer Research, March 2015

And can efficiently kill tumour cells via ADCC, ADPC, and CDC

Glycan antibodies like others can result in tumour-cell killing mediated by the immune system via antibody dependent cell cytotoxicity (ADCC), antibody dependent cell phagocytosis (ADCP), or complement dependent cytotoxicity (CDC). But unusually, some glycan antibodies can kill cells directly by damaging the cell membrane (oncotic necrosis). This finding led to Prof Lindy Durrant and her team at Nottingham University developing the AvidiMab technology.

AvidiMab delivers direct killing of cells

AvidiMab technology increases avidity and enables an antibody to kill tumour cells directly,...

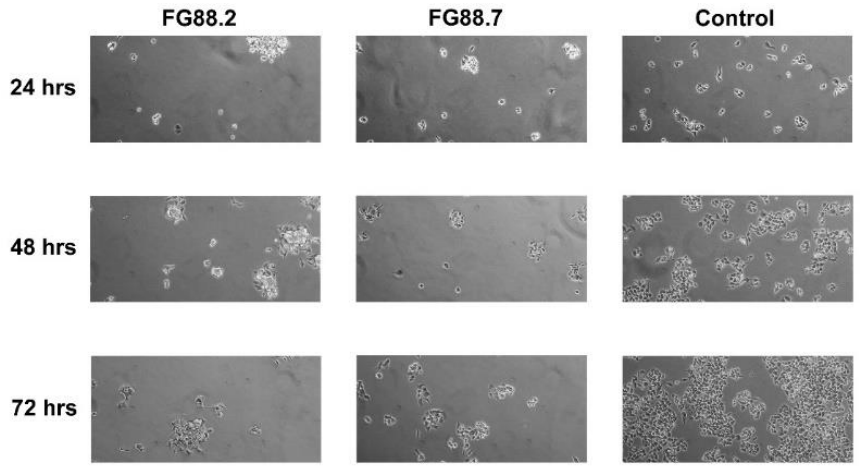
AvidiMab antibodies have specific modifications made to the F_c domain, which confer increased avidity and direct-killing ability with certain targets to the antibody at nanomolar concentration *in vitro*. Exhibit 4 provides an illustration of the effect of the AvidiMab on tumour cells.

Many antibodies depend on ADCC or ADCP to kill tumour cells, which rely on the necessary effector cells (T-cells and NK-cells) being active within a tumour. However, many tumours develop immunosuppressive microenvironments (become "cold" tumours) to evade detection by the immune system, and in these tumours an AvidiMab antibody should be more efficacious than a standard antibody.

...which could significantly enhance the anti-tumour activity of many antibodies

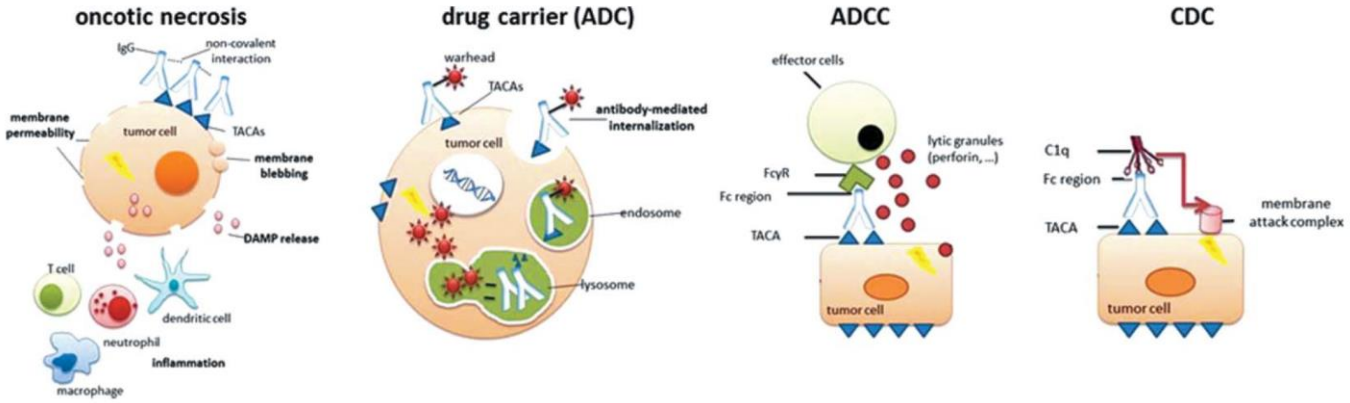
It is important to note that AvidiMabs can kill tumour cells efficiently both directly and indirectly (via ADCC, ADCP or CDC; Exhibit 5). Theoretically, this technology can be applied to any antibody and not just to glycan antibodies and could be used to enhance their potency in oncology.

Exhibit 4: The direct killing activity of FG88 antibodies with the AvidiMab technology



Source: Chua J. X. et al, Clinical Cancer Research, March 2015

Exhibit 5: Illustrations detailing the various killing mechanisms of glycan antibodies



Source: Vankemmelbeke M et al; OncoImmunology5:1; January 2016

Partnering potential

Significant interest in the technologies is expected

Scancell has started the partnering process, and has already formed a non-exclusive research collaboration with a leading antibody technology company so that the unnamed company can properly assess the antibodies and technology. The unique panel of glycan antibodies, and the ability of AvidiMabs to kill tumour cells could enhance the efficacy of many antibodies in oncology are likely to attract interest from other parties. So, we would not be surprised if other similar collaborations were formed ahead of a competitive, out-licensing discussions.

It should be noted that another company might have been reluctant to out-license such promising technologies, but sensibly Scancell is maintaining its focus on ImmunoBody and Moditope, and the funds received from any deal will be invested in the core technologies.

A summary of the characteristics of four of Scancell's glycan antibodies is detailed in Exhibit 6. The data on these antibodies will be crucial for any licensor as they provide validation of the value of the technologies. Scancell has the option to out-

license the antibodies, and the AvidiMab technology separately (and AvidiMab could be licensed to multiple parties on a non-exclusive basis), but in our opinion it is most likely that the greatest return for the company will be achieved by partnering these assets together.

Scancell could receive signficant upfront and milestone payments plus milestones

It is always challenging estimating the potential value of early stage technologies. But as a reference, Scancell partnered some preclinical glycan antibodies (generated using an earlier version of the glycan antibody platform) to the Australian biotech company Peptech in 2006, whose CEO was at the time John Chiplin, for an upfront payment of £2m and a milestone payment of £2.85m (received in 2011). This suggests that Scancell could receive significant upfront and milestone payments, with a modest royalty being payable to Nottingham University, from out-licensing the glycan antibody platform and AvidiMab technology, with the potential to receive additional milestones.

No changes have been made to our estimates or valuation to be conservative.

Exhibit 6: A summary of the characteristics of four TaG antibodies that Scancell aims to partner

Monoclonal Antibodies	FG88	FG27	FG129	FL134
Glycan	Lewis a/c/x	Lewis y (ultraspecific)	Sialyl-di-Lewis a	Fucosyl GM1
Antigen	Glycolipids glycoproteins	Glycolipids glycoproteins	Glycoproteins	Glycolipid
Tumour Targets	Colorectal, Gastric Pancreatic Ovarian Breast Lung	Colorectal, Gastric Pancreatic Ovarian Breast	Colorectal, Gastric Pancreatic	Small cell lung cancer
Normal tissue	GI tract	Weak on stomach and pancreas	Very weak oesophagus	
ADC	10pM	1nM	10pM	no
Directly kills	2nM	50nM	20nM	?
Immune mediated killing ADCC/CDC	ADCC:10nM CDC : 100nM	ADCC:30nM CDC : 100nM	ADCC: 1nM CDC: 20nM	ADCC: 2nM CDC : 100nM
Human mAb	Chimeric	Humanised	Chimeric	Chimeric
Potential field(s) of use	✓ ICD ✓ ADC ? CAR-T ? Re-directed	✓ ICD ✓ ADC ✓ CAR-T ✓ Re-directed	× ICD ✓ ADC ✓ CAR-T ✓ Re-directed	✓ ICD ? CAR-T ? Re-directed

Source: Scancell

Exhibit 7: Summary of financials

Year-end: April 30	£'000s	2016	2017	2018	2019	2020E	2021E
INCOME STATEMENT							
Revenues		**0**	**0**	**0**	**0**	**0**	**0**
Cost of goods sold		0	0	0	0	0	0
Gross Profit		**0**	**0**	**0**	**0**	**0**	**0**
R&D expenses		(2,009)	(2,766)	(2,855)	(4,152)	(5,074)	(6,089)
General and administrative expenses		(1,034)	(1,783)	(2,087)	(2,577)	(2,614)	(2,692)
Underlying operating profit		**(3,043)**	**(4,549)**	**(4,942)**	**(6,729)**	**(7,689)**	**(8,781)**
Other revenue/expenses		0	0	0	0	0	0
EBITDA		**(3,021)**	**(4,516)**	**(4,914)**	**(6,708)**	**(7,668)**	**(8,765)**
Operating Profit		**(3,043)**	**(4,549)**	**(4,942)**	**(6,729)**	**(7,689)**	**(8,781)**
Interest expense		14	53	3	15	11	7
Profit Before Taxes		**(3,030)**	**(4,495)**	**(4,939)**	**(6,714)**	**(7,678)**	**(8,774)**
Adj. PBT		**(3,030)**	**(4,495)**	**(4,939)**	**(6,714)**	**(7,678)**	**(8,774)**
Current tax income		446	950	745	1,087	1,269	1,522
Cumulative preferred stock dividend		0	0	0	0	0	0
Net Income		**(2,583)**	**(3,545)**	**(4,195)**	**(5,627)**	**(6,409)**	**(7,252)**
EPS (p)		**(1.1)**	**(1.4)**	**(1.3)**	**(1.5)**	**(1.4)**	**(1.6)**
Adj. EPS (p)		**(1.1)**	**(1.4)**	**(1.3)**	**(1.5)**	**(1.4)**	**(1.6)**
DPS (p)		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Average no. of shares (m)		227.6	261.6	312.7	387.0	447.1	465.4
Gross margin		*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
BALANCE SHEET							
Current assets		**7,088**	**3,523**	**11,145**	**7,069**	**4,421**	**7,248**
Cash and cash equivalents		6,527	2,672	10,303	4,560	3,397	6,161
Accounts receivable		121	102	97	678	339	339
Inventories		0	0	0	0	0	0
Other current assets		440	749	745	1,831	685	748
Non-current assets		**3,480**	**3,508**	**3,492**	**3,474**	**3,456**	**3,443**
Property, plant & equipment		65	93	77	59	41	28
Other non-current assets		0	0	0	0	0	0
Current liabilities		**(576)**	**(532)**	**(696)**	**(1,205)**	**(1,205)**	**(11,205)**
Short-term debt		0	0	0	0	0	(10,000)
Accounts payable		(576)	(532)	(696)	(1,205)	(1,205)	(1,205)
Other current liabilities		0	0	0	0	0	0
Non-current liabilities		**0**	**0**	**0**	**0**	**0**	**0**
Long-term debt		0	0	0	0	0	0
Other non-current liabilities		0	0	0	0	0	0
Equity		**9,992**	**6,499**	**13,941**	**9,337**	**6,672**	**(514)**
Share capital		22,047	22,047	33,749	35,026	38,711	38,711
Other		(12,055)	(15,548)	(19,808)	(25,690)	(32,039)	(39,225)
CASH FLOW STATEMENTS							
Operating cash flow		**(2,327)**	**(3,841)**	**(4,060)**	**(7,018)**	**(4,843)**	**(7,233)**
Profit before tax		(3,030)	(4,495)	(4,939)	(6,714)	(7,678)	(8,774)
Non-cash adjustments		44	31	(41)	(248)	70	76
Change in working capital		(12)	(25)	169	(71)	339	0
Interest paid		4	6	3	15	11	7
Taxes paid		667	642	749	0	2,415	1,459
Investing cash flow		**10**	**(14)**	**(11)**	**(3)**	**(3)**	**(4)**
CAPEX on tangible assets		0	(61)	(11)	(3)	(3)	(4)
Other investing cash flows		10	47	0	0	0	0
Financing cash flow		**5,786**	**0**	**11,702**	**1,277**	**3,684**	**10,000**
Proceeds from equity		5,786	0	11,702	1,277	3,684	0
Increase in loans		0	0	0	0	0	10,000
Other financing cash flow		0	0	0	0	0	0
Net increase in cash		**3,468**	**(3,855)**	**7,631**	**(5,743)**	**(1,163)**	**2,763**
Cash at start of year		3,059	6,527	2,672	10,303	4,560	3,397
Cash at end of year		**6,527**	**2,672**	**10,303**	**4,560**	**3,397**	**6,161**
Net cash at end of year		**6,527**	**2,672**	**10,303**	**4,560**	**3,397**	**(3,839)**

Source: Scancell, Trinity Delta Note: Adjusted numbers exclude exceptionals. The short-term debt in FY21 is indicative of the company's funding requirement

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